

PHONOLOGICAL PROCESSES AND BEYOND

Linda Khan, MS, CCC-SLP

March 17, 2016

Speech & Language Webinar Series





Presenter Disclosures

Course Content

- Focuses on KLPA-3

Financial: The presenter receives a royalty from the sale of KLPA-3 and related products.

Non-Financial: There are no relevant non-financial relationships to disclose.

Pearson Assessment is the publisher of the KLPA-3 and is hosting this workshop. No other assessments will be discussed during this session.

**An Introduction to Khan-Lewis Phonological
Analysis-Third Edition**

KLPA-3



Nancy Lewis, MS CCC-SLP
August 19, 2015
Speech & Language Webinar Series

ALWAYS LEARNING

PEARSON

Today's Webinar continues from an earlier introductory KLPA-3 Speech & Language Webinar presented by Nancy Lewis.



Agenda

Case Study: OLIVER, age 5:6

From assessment through treatment planning

1. GFTA-3 results
2. KLPA-3: Phonological Process Analysis
3. Treatment Goals from KLPA-3 pp 11-12
4. Go DIGITAL!



Agenda

Case Study: OLIVER, age 5:6



- 1. GFTA-3 results**
2. KLPA-3: Phonological Process Analysis
3. Treatment Goals from KLPA-3 pp 11-12
4. Go DIGITAL!



Plan ahead! Will you be completing the KLPA-3?

- 1. Very young child**
- 2. Multiple misarticulations**
- 3. Poor intelligibility**



When expecting to complete a phonological analysis...

...be sure to capture the full transcriptions on the GFTA-3 Record Form.

Oliver, 5:6

Kindergarten teacher referral

“Sounds young for age”

“Difficult to understand”

Oliver, 5:6

- 1. Very young child**
- **2. Multiple misarticulations**
- **3. Poor intelligibility**

GFTA-3 Record Form p 2

Sounds-in-Words (Ages 2:0–21:11)

Item	Target Word	IPA Transcription				
1	HOUSE	h	aʊ	s		
2	DOOR	d	ɔ	r		
3	PIG	p	ɪ	g		
4	CUP	k	ʌ	p		
5	BOY	b	ɔɪ			
6	APPLE	æ	p	ə	l	
7	GO	g	o			
8	DUCK	d	ʌ	k		
9	QUACK	k	w	æ	k	
10	TABLE	t	e	b	ə	l
11	MONKEY	m	ʌ	ŋ	k	i



Scoring the GFTA-3 (Manual, Chapter 2)

24	LION	l	ai	ə	n		
25	CHAIR	tʃ	ε	r			
26	SOAP	s	o	p			
27	GLASSES	g	l	æ	s	ɪ	z
28	TIGER	t	ai	g	ə		
29	PUZZLE	p	ʌ	z	ə	l	
30	FINGER	f	ɪ	n	g	ə	

Handwritten notes on the right side of the table:
j/t, t/s, o/r
t/s
w/d, θ/s, θ/z
v/g
-θ, o/l
r/z

4 errors:

-/g

w/l

θ/s

θ/z



Scoring the GFTA-3: *Adapted* for later KLPA-3 Analysis

24	LION	l	aɪ	ə	n
25	CHAIR	tʃ	ɛ	r	ɔ
26	SOAP	s	o	p	
27	GLASSES	g	w	ɛs	ɪ θz
28	TIGER	t	aɪ	g	ə ²⁵
29	PUZZLE	p	ʌ	z	l ^o
30	FINGER	f	ɪ	ŋ	g ə ²⁵

- “/” for omission
- error transcription **overlying** target phoneme



GFTA-3 Results

GFTA-3
Raw Score 64
%ile: <0.1

Confirmed:
Continue on to
the KLPA-3

GFTA-3
GOLDMAN-FRISTOE
TEST OF ARTICULATION

Ronald Goldman and Macalynne Fristoe

Name: Oliver

Female Male Grade/Ed. Level: K

School/Agency: E.S.

Language Spoken in the Home: English

Dialect (if applicable): _____

Examiner: SLP

Reason for Testing: "sounds young for age"

RECORD FORM

Age Calculation

	Year	Month	Day
Test Date	<u>2015</u>	<u>10</u>	<u>1</u>
Birth Date	<u>2010</u>	<u>3</u>	<u>17</u>
Age	<u>5</u>	<u>6</u>	<u>14</u>

Reminder: Do not round up to next month or year.

GFTA-3 Sounds-in-Words Score Summary

Total Raw Score*	Standard Score	Confidence Interval <input type="checkbox"/> 90% <input checked="" type="checkbox"/> 95%	Percentile Rank	Test-Age Equivalent	Growth Scale Value
<u>64</u>	<u>49</u>	<u>45 - 60</u>	<u><0.1</u>	<u>2:2 - 2:3</u>	<u>507</u>



Agenda

Case Study: OLIVER, age 5:6


1. GFTA-3 Results

2. KLPA-3: Phonological Process Analysis

3. Treatment Goals from KLPA-3 pp 11-12

4. Go DIGITAL!

KLPA-3 Analysis Form Cover


ANALYSIS FORM

Linda Khan and Nancy Lewis

Name: Oliver Female Male

Grade/Ed. Level: K School/Agency: E.S.

Language(s) Spoken in the Home: English

Examiner: SLP

Reason for Testing: "sounds young for age"

AGE CALCULATION

	Year	Month	Day
Test Date	2013	10	1
Birth Date	2010	3	17
Age	5	6	14

Reminder: Do not round up to next month or year.

KLPA-3 SCORE SUMMARY

*Total Raw Score	Standard Score	Confidence Interval <input type="checkbox"/> 90% <input checked="" type="checkbox"/> 95%	Percentile Rank	Age Equivalent
86	40	37 - 51	<0.1	<2:0

* Raw score equals total number of occurrences of scored phonological processes.

PERCENT OF OCCURRENCE FOR CORE PHONOLOGICAL PROCESSES

	Phonological Process	Number of Occurrences	Total Possible Occurrences	Percent of Occurrences
Manner	Deafification (DF)	1	of 8 =	13 %
	Gliding of liquids (GL)	18	of 20 =	90 %
	Stopping of fricatives and affricates (ST)	13	of 48 =	27 %
	Stuteny deletion (STR)	17	of 42 =	40 %
	Vocalization (VOQ)	15	of 15 =	100 %
Place	Palatal fronting (PF)	11	of 12 =	92 %
	Velar fronting (VF)	1	of 23 =	4 %
	Cluster simplification (CS)	6	of 23 =	26 %
Reduction	Deletion of final consonant (DFC)		of 36 =	%
	Syllable reduction (SR)	2	of 25 =	8 %
Adding	Final devoicing (FDV)	2	of 35 =	6 %
	Initial voicing (IV)		of 33 =	%

VOWEL ALTERATIONS

Notes:
aɪ, aʊ, e, æ → [a]
10%

DIALECTAL INFLUENCE

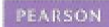
Yes No

Notes:


OVERALL INTELLIGIBILITY

Good Fair Poor

Notes:



Copyright © 2015 NCS Pearson, Inc. All rights reserved.



1 2 3 4 5 6 7 8 9 10 11 12 A B C D E Product Number 0158012844

12 CORE and 12 Supplemental Phonological Processes (L-->R)

CORE Phonological Processes						Manner			Place		Reduction		Voicing		
Item	Target Word	IPA Transcription	Individual's Response	Target Sound	Sound Change	Deletion	Entry of liquids and glides	Blending	Vocalization	Partial neutralization	Neutralization	Cluster simplification	Reduction of final consonant	Epenthesis	Final devoicing
1	house	hʌʊs	hʌʊθ	h	θ				X						
2	door	dɔr	dɔ	d	ɔ				X						
3	pig	pɪg	✓	p											
4	cup	kʌp	✓	k											
5	boy	bɔɪ	✓	b											
6	apple	æpəl	æpʊ	p	ʊ				X						
7	go	gəʊ	✓	g											
8	duck	dʌk	✓	d											
9	quack	kwæk	✓	k											
10	table	teɪbəl	tabʊ	t	ʊ				X						
11	monkey	mʌŋki	✓	m											
12	hammer	hæmə	hæmʊ	m	ʊ				X						
13	fish	fɪʃ	fɪs	f	s							X			
14	watch	wɒtʃ	wʌts	w	tʃ			X		X		X			
15	spider	spɪdə	padʊ	p	ʊ			X							
16	web	wɛb	✓	w					X						
17	drum	dɹʌm	dʌm	d	m		X								
18	plate	plɛt	pʌt	p	t		X								
19	knife	nɑɪf	naf	n	f										
20	shoe	ʃu	sʊ	ʃ	s					X					
21	slide	slaɪd	swad	s	w		X								
Subtotal 1						3	2	5	3	1					

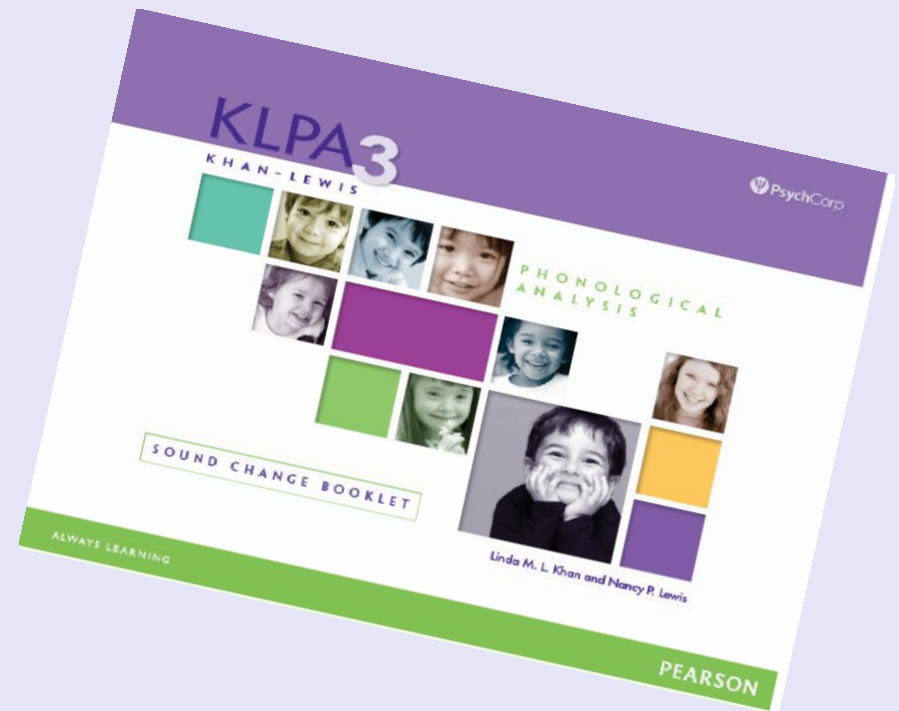
SUPPLEMENTAL Phonological Processes						Manner			Place		Reduction		Voicing		
Item	Target Word	IPA Transcription	Individual's Response	Target Sound	Sound Change	Deletion	Entry of liquids and glides	Blending	Vocalization	Partial neutralization	Neutralization	Cluster simplification	Reduction of final consonant	Epenthesis	Final devoicing
22	house	hʌʊs	hʌʊθ	h	θ				X						
23	door	dɔr	dɔ	d	ɔ				X						
24	pig	pɪg	✓	p											
25	cup	kʌp	✓	k											
26	boy	bɔɪ	✓	b											
27	apple	æpəl	æpʊ	p	ʊ				X						
28	go	gəʊ	✓	g											
29	duck	dʌk	✓	d											
30	quack	kwæk	✓	k											
31	table	teɪbəl	tabʊ	t	ʊ				X						
32	monkey	mʌŋki	✓	m											
33	hammer	hæmə	hæmʊ	m	ʊ				X						
34	fish	fɪʃ	fɪs	f	s							X			
35	watch	wɒtʃ	wʌts	w	tʃ			X		X		X			
36	spider	spɪdə	padʊ	p	ʊ			X							
37	web	wɛb	✓	w					X						
38	drum	dɹʌm	dʌm	d	m		X								
39	plate	plɛt	pʌt	p	t		X								
40	knife	nɑɪf	naf	n	f										
41	shoe	ʃu	sʊ	ʃ	s					X					
42	slide	slaɪd	swad	s	w		X								
Subtotal 1						3	2	5	3	1					

Locate the sound Change: house /haus/ **s** → **[θ]**

CORE Phonological Processes						Mar		
ITEM	Target Word	IPA Transcription	Individual's Response	Target Sound	Sound Change	Deaffrication	Gliding of liquids	Stopping of fricatives
1	house	haus	hauθ	h				
				s	θ			
2	door	dɔr	dɔ	d				
				r	ɹ			
3	pig	pɪg	✓	p				
4	cup	kʌp	✓	k				
				p				

Sound Change Booklet

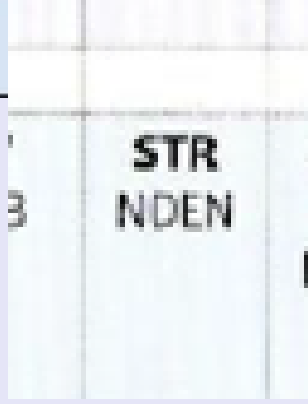
- The KLPA-3 *Sound Change Booklet* lists phonological processes for possible sound changes



Find #1 house.

Look for **s** → **[θ]** in the Sound Change Booklet

Item	Target Word	Target Sound	Syllable Del	Cluster Del	Single Component Del	p	b	t	d	k	g	ʔ	m	n	ŋ	f	v	θ	ð
1	house	h			DC	ST LAB	ST IV LAB	ST ALV	ST IV ALV	ST	ST IV	ST GR	IV LAB (+NAS)	IV (+NAS) ALV	IV (+NAS)	LAB (+STR)	IV LAB (+STR)	NDEN	IV NDEN
		s			DC STR	ST STR LAB	ST STR FV LAB	ST STR	ST STR FV	ST STR BK	ST STR BK FV	ST STR	STR FV (+NAS)	STR FV (+NAS)	STR BK	LAB	FV LAB	STR NDEN	ST FV NDEN



Close-up view of the **s** → **[θ]** cell

Mark the processes on the Analysis Form:

s → [θ] STR, NDEN

CORE Phonological Processes						Manner					
ITEM	Target Word	IPA Transcription	Individual's Response	Target Sound	Sound Change	Deaffrication	Gliding of liquids	Stopping of fricatives and affricates	Stridency deletion	Vocalization	Palatal fronting
1	house	haus	hauθ	h							
				s	θ				X		

STR = Stridency Deletion
 NDEN = Interdentalization

SUPPLEMENTAL Phonological Processes		
Target Sound	Target Word	ITEM
h	house	1
s		
d	door	2
r		
p	pig	3
g		
k	cup	4
p		
b	boy	5

Vowel alteration	Other phonological processes	Processes per word (PPW)
	NDEN	2
		1



12 CORE Phonological Processes

- Deaffrication
- Gliding of Liquids
- Stopping
- Stridency
- Deletion
- Vocalization of Liquids
- Palatal Fronting
- Velar Fronting
- Cluster Simplification
- Deletion of Final Consonant
- Syllable Reduction
- Final Devoicing
- Initial Voicing

12 CORE Phonological Processes

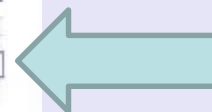
		Manner					Place		Reduction			Voicing	
Target Sound	Sound Change	Deaffrication	Gliding of liquids	Stopping of fricatives and affricates	Stridency deletion	Vocalization	Palatal fronting	Velar fronting	Cluster simplification	Deletion of final consonant	Syllable reduction	Final devoicing	Initial voicing
h													
s	θ				X								
d													
r	ɹ					X							
p													
g													
k													

CORE Phonological Process Definitions: AF p. 10

Core Phonological Process Definitions		Supplemental
Manner		Manner
DF	Deaffrication: deleting the stop feature of an affricate, with retention of the continuant, or fricative, feature chair → [sɛr] /tʃ/ → [s]	AFF Affricate feature bru
GL	Gliding of liquids: producing the liquids /l/ and /r/ as glides /w/ and /j/ giraffe → [dʒəwæf] /r/ → [w]	FRC Fricative consonant qua
ST	Stopping of fricatives and affricates: stopping a fricative, resulting in an affricate, stop, or glottal stop; stopping an affricate, resulting in a stop or glottal stop pajamas → [pədɑmɑs] /dʒ/ → [d]	GL(Oth) Glottal cha pos sho
STR	Stridency deletion: deleting stridency from strident consonants either through deletion or replacement chair → [tɛr] /tʃ/ → [t]	GR Glottal any con vac

Subtotals p 2, CORE Phonological Processes

Item	Target Word	IPA Transcription	Individual's Response	Target Score	Score Change	Manner		Place		Reduction		Voicing	
						Deletion	Entry of liquids	Slipping of liquids and affricates	Substituting deletion	Vocalization	Partial voicing	Velar fricative	Cluster simplification
1	house	haʊs	havθ	h	θ								
2	door	dɔr	dɔ	d	ɔ								
3	pig	pɪg	✓	p									
4	cup	kʌp	✓	k									
5	boy	bɔɪ	✓	b									
6	apple	æpl	zpo	p	o								
7	go	gəʊ	✓	g									
8	duck	dʌk	✓	d									
9	quack	kwa:k	✓	k									
10	table	teɪbəl	tabo	b	o								
11	monkey	mʌŋki	✓	m									
12	hammer	hæmə	hamv	m	v								
13	fish	fɪʃ	fɪs	f	s								
14	watch	wɒtʃ	wats	w	tʃ								
15	spider	spɑɪdər	padu	p	u								
16	web	wɛb	✓	w									
17	drum	dɹʌm	dwam	r	w								
18	plate	pleɪt	pwet	p	w								
19	knife	naɪf	naf	n	f								
20	shoe	ʃu	su	ʃ	s								
21	slide	slaɪd	swad	s	w								
Subtotal 1						3	2	5	3	1			



12 CORE Phonological Processes: Total Raw Score

56	juice	dʒus	du s	s																
57	zoo	zu	du	z	d															
58	star	star	stao	s																
				t																
				r	o															
59	five	farv	faf	f	f															
				v																
60	seven	seven	teben	s	t															
				v	b															
				n																
Subtotal 4						4	4	1	1											1



Subtotal 1		3		2	5	3			1											
Subtotal 2	1	5	4	6	7	4			4											1
Subtotal 3		10	5	5	2	3	1	1					2							
+ Subtotal 4			4	4	1	1														1

SUMS OF SUBTOTALS

1	18	13	17	15	11	1	6		2	2										
---	----	----	----	----	----	---	---	--	---	---	--	--	--	--	--	--	--	--	--	--



TOTAL RAW SCORE 86



Analysis Form Cover Page

Oliver, 5:6

RS: 86

SS: 40

%ile: <0.1

AE: <2:0

KLPA³
KHAN-LEWIS
PHONOLOGICAL ANALYSIS

Linda Khan and Nancy Lewis

ANALYSIS FORM

Name: Oliver Female Male

Grade/Ed. Level: K School/Agency: E.S.

Language(s) Spoken in the Home: English

Examiner: SLP

Reason for Testing: "sounds young for age"

AGE CALCULATION			
	Year	Month	Day
Test Date	<u>2015</u>	<u>10</u>	<u>1</u>
Birth Date	<u>2010</u>	<u>3</u>	<u>17</u>
Age	<u>5</u>	<u>6</u>	<u>14</u>

Reminder: Do not round up to next month or year.

KLPA-3 SCORE SUMMARY				
*Total Raw Score	Standard Score	Confidence Interval <input type="checkbox"/> 90% <input checked="" type="checkbox"/> 95%	Percentile Rank	Age Equivalent
<u>86</u>	<u>40</u>	<u>37 - 51</u>	<u><0.1</u>	<u><2:0</u>

* Raw score equals total number of occurrences of scored phonological processes.



Analysis Form Cover Page


Olivia, 2:10

RS: 86

SS: 69

%ile: 2

AE: >2:0



ANALYSIS FORM

Linda Khan and Nancy Lewis

Name: Olivia Female Male

Grade/Ed. Level: PS School/Agency: _____

Language(s) Spoken in the Home: English

Examiner: SLP

Reason for Testing: "difficult to understand"

AGE CALCULATION

	Year	Month	Day
Test Date	<u>2015</u>	<u>3</u>	<u>14</u>
Birth Date	<u>2012</u>	<u>5</u>	<u>14</u>
Age	<u>2</u>	<u>10</u>	

Reminder: Do not round up to next month or year.

KLPA-3 SCORE SUMMARY				
*Total Raw Score	Standard Score	Confidence Interval <input type="checkbox"/> 90% <input checked="" type="checkbox"/> 95%	Percentile Rank	Age Equivalent
<u>86</u>	<u>69</u>	<u>66 - 74</u>	<u>2</u>	<u>< 2:0</u>

* Raw score equals total number of occurrences of scored phonological processes.

Analysis Form Cover Page

Enter PP Sums under “Number of Occurrences”

KLPA-3 SCORE SUMMARY			
*Total Raw Score	Standard Score	Confidence Interval <input type="checkbox"/> 90% <input checked="" type="checkbox"/> 95%	Percentile Rank
86	40	37 - 51	<0.1

* Raw score equals total number of occurrences of scored phonological processes

PERCENT OF OCCURRENCE FOR CORE PHONOLOGICAL PROCESSES				
	Phonological Process	Number of Occurrences	Total Possible Occurrences	Percent of Occurrences
Manner	Deaffrication (DF)	1	of 8 =	13 %
	Gliding of liquids (GL)	18	of 20 =	90 %
	Stopping of fricatives and affricates (ST)	13	of 48 =	27 %
	Stridency deletion (STR)	17	of 42 =	40 %
	Vocalization (VOC)	15	of 15 =	100 %
Place	Palatal fronting (PF)	11	of 12 =	92 %
	Velar fronting (VF)	1	of 23 =	4 %
Reduction	Cluster simplification (CS)	6	of 23 =	26 %
	Deletion of final consonant (DFC)		of 36 =	%
	Syllable reduction (SR)	2	of 25 =	8 %
Voicing	Final devoicing (FDV)	2	of 35 =	6 %
	Initial voicing (IV)		of 33 =	%

Notes:
aI, a

Notes:

Notes:

Analysis Form Cover Page

Convert
 “Number of Occurrences”
 to “Percent of Occurrence”

Manual Table
 C.2

KLPA-3 SCORE SUMMARY			
*Total Raw Score	Standard Score	Confidence Interval <input type="checkbox"/> 90% <input checked="" type="checkbox"/> 95%	Percentile Rank
86	40	37 - 51	< 0.1

* Raw score equals total number of occurrences of scored phonological processes.

PERCENT OF OCCURRENCE FOR CORE PHONOLOGICAL PROCESSES				
	Phonological Process	Number of Occurrences	Total Possible Occurrences	Percent of Occurrences
Manner	Deaffrication (DF)	1	of 8 =	13 %
	Gliding of liquids (GL)	18	of 20 =	90 %
	Stopping of fricatives and affricates (ST)	13	of 48 =	27 %
	Stridency deletion (STR)	17	of 42 =	40 %
	Vocalization (VOC)	15	of 15 =	100 %
Place	Palatal fronting (PF)	11	of 12 =	92 %
	Velar fronting (VF)	1	of 23 =	4 %
Reduction	Cluster simplification (CS)	6	of 23 =	26 %
	Deletion of final consonant (DFC)		of 36 =	%
	Syllable reduction (SR)	2	of 25 =	8 %
Voicing	Final devoicing (FDV)	2	of 35 =	6 %
	Initial voicing (IV)		of 33 =	%



Questions about KLPA-3 CORE Phonological Processes?

12 Supplemental Phonological Processes

- **Affrication**
- **Frication**
- **Gliding (Other)**
- **Glottal Replacement**
- **Liquidization**
- **Stopping (Other)**
- **Backing to Velars**
- **Deletion of Initial Consonants**
- **Deletion of Medial Consonants**
- **Initial Devoicing**
- **Medial Devoicing**
- **Medial Voicing**

Supplemental Phonological Process Definitions: AF p. 10

Definitions	Supplemental Phonological Process Definitions
an affricate, feature	<p>Manner</p> <p>AFF Affrication: adding a stop feature to the continuant feature of a fricative brushing → [brʌtʃɪŋ] /ʃ/ → [tʃ]</p>
/ and /r/	<p>FRC Frication: changing any nonfricative or nonaffricate consonant to a fricative quack → [kvæk] /w/ → [v]</p>
opping a lottal stop; glottal stop	<p>GL(Oth) Gliding of consonants other than liquids: changing a nonliquid consonant to a glide in a position other than word-finally shoe → [ju] /ʃ/ → [j]</p>
m strident placement	<p>GR Glottal replacement: using a glottal stop to replace any consonant vacuum → [vaʔum] /kj/ → [ʔ]</p>

p 9: Supplemental Phonological Processes

(**Oliver used no Supplemental PPs)

Manner						Place	Reduction		Voicing		
Affrication	Frication	Gliding (other)	Glibal replacement	Liquidization	Stopping (other)	Backing to velars or /v/	Deletion of initial consonant	Deletion of medial consonant	Initial devoicing	Medial devoicing	Medial voicing

Subtotals

Totals

of 151 =	of 111 =	of 81 =	of 159 =	of 124 =	of 59 =	of 134 =	of 58 =	of 27 =	of 41 =	of 22 =	of 11 =
___%	___%	___%	___%	___%	___%	___%	___%	___%	___%	___%	___%

% of occurrence

Also on p 9

- **Vowel Alterations**
- **Other phonological processes**
- **Processes per word (PPW)**

Medial voicing	Vowel alterations	Other phonological processes	Processes per word (PPW)
		NDGN	2
			1
		LAB	2

Vowel Alterations

SUM of VOWEL ALTERATIONS

$$8 \div 82 = 0.1 \times 100 =$$

10%

Voicing				SUPPLEMENTAL Phonological Processes			
Medial devoicing	Medial voicing	Vowel alterations	Other phonological processes	Processes per word (PPW)	Target Sound	Target Word	ITEM
				3	dʒ	juice	56
				2	s	zoo	57
				1	s	star	58
				1	t	star	58
		ai → a		1	r	star	58
				4	f	five	59
				4	v	five	59
				4	s	seven	60
				4	v	seven	60
		1		11	n	seven	60
					Subtotal 4		
				5	Subtotal 1		
				1	Subtotal 2		
				1	Subtotal 3		
				1	+ Subtotal 4		
				8	Subtotal 1		
				19	Subtotal 2		
				30	Subtotal 3		
				45	Subtotal 4		
				11	Subtotal 5		
				114	Subtotal 6		
= of 22 = of =				of 82 =	of 60 =		
				10%	1.9		



Vowel Alterations Front Page/Summary Data

...and on the front page of the Analysis Form

KLPA-3 SCORE SUMMARY				
*Total Raw Score	Standard Score	Confidence Interval <input type="checkbox"/> 90% <input checked="" type="checkbox"/> 95%	Percentile Rank	Age Equivalent
86	40	37 - 51	<0.1	<2:0

* Raw score equals total number of occurrences of scored phonological processes.

PERCENT OF OCCURRENCE FOR CORE PHONOLOGICAL PROCESSES				VOWEL ALTERATIONS
	Phonological Process	Number of Occurrences	Total Possible Occurrences	Percent of Occurrences
Manner	Deaffrication (DF)	1	of 8 =	13 %
	Gliding of liquids (GL)	18	of 20 =	90 %
	Stopping of fricatives and affricates (ST)	13	of 48 =	27 %
	Stridency deletion (STR)	17	of 42 =	40 %
	Vocalization (VOC)	15	of 15 =	100 %
Place	Palatal fronting (PF)	11	of 12 =	92 %
	Velar fronting (VF)	1	of 23 =	4 %
Reduction	Cluster simplification (CS)	6	of 23 =	26 %
	Deletion of final consonant (DFC)		of 36 =	%
	Syllable reduction (SR)	2	of 25 =	8 %
Voicing	Final devoicing (FDV)	2	of 35 =	6 %
	Initial voicing (IV)		of 33 =	%

Notes: aɪ, aʊ, e, æ → [ɑ]
10%
DIALECTAL INFLUENCE
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Notes:
OVERALL INTELLIGIBILITY
<input type="checkbox"/> Good <input checked="" type="checkbox"/> Fair <input type="checkbox"/> Poor
Notes:



Vowel Alterations

More details about **Vowel Alterations** later in this Webinar.

(p 12 of the KLPA-3 Analysis Form)

Also on p 9

- **Vowel Alterations**
- **Other phonological processes**
- **Processes per word (PPW)**

Medial voicing	Vowel alterations	Other phonological processes	Processes per word (PPW)
	aɪ → ə		3
		LAB	2
		LAB	2

Other Phonological Processes

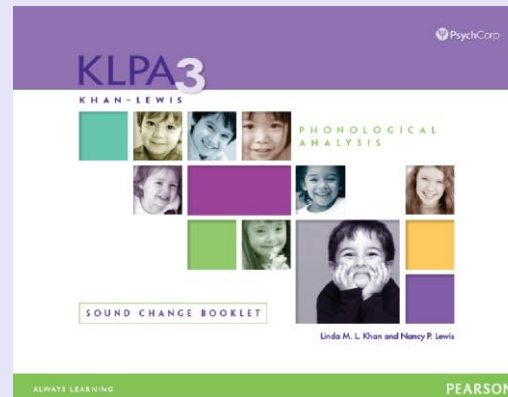
- Record “Other” Phonological Processes on the Analysis Form

Manner						Place	Reduction		Voicing			SUPPLEMENTAL Phonological Processes					
Affrication	Frication	Gliding (other)	Glottal replacement	Liquidization	Stopping (other)	Backing to velars or /h/	Deletion of initial consonant	Deletion of medial consonant	Initial devoicing	Medial devoicing	Medial voicing	Vowel alterations	Other phonological processes	Processes per word (PPW)	Target Sound	Target Word	ITEM
															h	house	1
													NDGN	2	s		
														1	d	door	2
															p		
															g	pig	3



Other Phonological Processes

- “Other” than the Core and Supplemental Processes
- Look them up in the Sound Change Booklet





Questions about KLPA-3 SUPPLEMENTAL and OTHER Phonological Processes?

Also on p 9

- Vowel Alterations
- Other phonological processes
- Processes per word (PPW)



Medial voicing	Vowel alterations	Other phonological processes	Processes per word (PPW)
		NDGN	2
			1

PPW: Processes Per Word

-an average

-a severity measure

-a growth/progress measure



PPW: Processes Per Word

- 1. Count the number of consonant cells X'd (L to R) for each word'.**
- 1. Add any additional processes that were noted in the “Other” column**

Count the “X’s” for each WORD and add any “Other”

CORE Phonological Processes						Manner					
ITEM	Target Word	IPA Transcription	Individual's Response	Target Sound	Sound Change	Deaffrication	Gliding of liquids	Stopping of fricatives and affricates	Stridency deletion	Vocalization	Palatal fronting
1	house	haus	hauθ	h	θ				X		

Total PPs for house = 2:
 1 CORE process and 1
 “Other”

SUPPLEMENTAL Phonological Processes			Target Sound	Target Word	ITEM
Vowel alteration			h	house	1
Other phonological processes	NDGN	2	s		
Processes per word (PPW)		1	d	door	2
			r		
			p	pig	3
			g		
			k	cup	4
			p		
			b	boy	5

PPW: Comparison

SLIDE → [wa]	SLIDE → [swad]
<p>DFC</p> <p>CS</p> <p>STR</p> <p>GL</p> <p>(Vowel monophthongization)</p>	<p>GL</p> <p>(Vowel monophthongization)</p>
4 PPs	1 PP

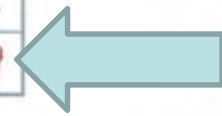
PPW

**SUM of
 PHONOLOGICAL
 PROCESSES
 (Example)**

$$114 \div 60 =$$

**Average PPW
 1.9**

Medial devoicing		Medial voicing		Vowel alternations		Other phonological processes		Processes per word (PPW)		SUPPLEMENTAL Phonological Processes		
Target Sound	Target Word	ITEM										
								3		dʒ	juice	56
								2		s	zoo	57
								1		s	star	58
								1		t		
								4		r		
								1		f	five	59
								1		v		
								4		s	seven	60
								1		v		
								11		n		
Subtotal 4												
								5				
								1				
								1				
								1				
Subtotal 1										19		
Subtotal 2										30		
Subtotal 3										45		
+ Subtotal 4										11		
Subtotal										114		
of 62 =										1.9		
%										0.1%		





Questions about PPW?

Consonant Analysis p 11

Vowel Analysis p 12

**For Treatment Planning and
Progress Monitoring**



pp 11 and 12

Consonants

Vowels

Consonant Analysis

Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced

m	n								
p	b	t	d	ʃ	ʒ	g	q		
l	v	ɹ	ɻ	f					
w									

Consonant Clusters:
kw, qw, pw, sw, bw, fw, gw, tw, st

Word-Medial Consonants Produced

m	n	ts							
p	b	t	d	ʃ	ʒ	g	q		
l	v	ɹ	ɻ	f	s				
w									

Consonant Clusters:
nk, kj, nθ

Word-Final Consonants Produced

m	n	ts							
p	b	t	d	ʃ	ʒ	g	q		
l	v	ɹ	ɻ	f	s				
w									

Consonant Clusters:

Core Phonological Process Analysis

Age	Phonological Process	
	Female	Male
2;0-2;5	FDV, IV	DE, FDX, IV
2;6-2;11	SR	SR
3;0-3;5	DFC, ST, VF	DFC, VF
3;6-3;11	DF	
4;0-4;5	STR	CS, ST, STR
4;6-4;11	CS, VOC, PF	PF
5;0-5;11		
6;0-6;11	GL	
7;0-7;11		CR
8;0-8;11		VOC

Summary of Consonant Analysis

- Phonetic Inventory: *clusters available, frics available, stridents available, no palatal obstruents, no liquids*
- Core Phonological Processes: *CS, ST, STR, PF, GL, Voc*
- Supplemental Phonological Processes: *∅*
- Other Phonological Process: *NDEN, *LAB, *PAL, +STR (*w, j for l, r)*
- Processes Per Word (PPW): *1.9*

Vowel Phonological Process Definitions

Backing: producing a front vowel as a back vowel
monkey → [mɒŋki] /i/ → [u]

Fronting: producing a back vowel as a front vowel
frog → [freg] /ɔ/ → [e]

Centralization: producing a front or back vowel as a central vowel
cookie → [kuki] /i/ → [ɪ]

Decentralization: producing a central vowel as a front or back vowel
cup → [kɛp] /ʌ/ → [ɔ]

Raising: altering vowel production by raising vowel height
giraffe → [dʒɛrɛf] /æ/ → [ɪ]

Lowering: altering vowel production by lowering vowel height
blue → [blu] /u/ → [ɔ]

Diphthongization: producing a monophthong as a diphthong
go → [gɔu] /ɔ/ → [ɔi]

Monophthongization: producing a diphthong as monophthong
boy → [bɔ] /ɔɪ/ → [ɔ]

Vowel Analysis

Phonetic Inventory for Vowels in Single Words

	Vowels Produced			Vowel Phonological Processes	Individual's Vowel Usage
	Front	Central	Back		
High	i leaf		u too	Backing	<i>e, æ → ɔ</i>
	e pig		ɔ cookie	Fronting	
	a photo		ɒ zebra	Centralization	
Mid	ɛ web		ɔ frog	Decentralization	
	ɪ farmer	ʌ cup	ɒ watch	Raising	<i>e → a</i>
Low				Lowering	
				Diphthongization	<i>e → a</i>
Diphthongs					
	ɔi house	ai knight	ɔɪ boy	Monophthongization	<i>ai, au → ɔ</i>

Summary of Vowel Analysis

- Vowels Produced: *All in Inventory* ≠ Vowel Alterations = 10
- Vowel Phonological Processes Used: *Backing (e, æ), Lowering (e), Monophthongization (ai, au)*

PEARSON PsychCorp

Copyright © 2015 NCS Pearson, Inc. All rights reserved. Portions of this work were previously published.

Warning: No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without the express written permission of the copyright owner.

Pearson, PSE Design, PsychCorp, KLPA, Q-global, and Q-interactive are trademarks, in the U.S. and/or other countries, of Pearson Education, Inc. or its affiliates.

PsychCorp is an imprint of Pearson Clinical Assessment.

NCS Pearson, Inc., 5001 Green Valley Drive, Bloomington, MN 55437
960.627.7271 • www.PearsonClinical.com

Printed in the United States of America.

Consonant Analysis p 11

- Phonetic Inventory for Consonants and Consonant Clusters

- Core Phonological Process Analysis Table

- Summary Box

Consonant Analysis
 Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced

m	n	ŋ
p	b	t
k	g	
f	v	s
z		
ʃ		
w	r	l
	i	h

Consonant Clusters:
kw, dw, pw, sw, bw, fw, gw, tw, st

Word-Medial Consonants Produced

m	n	ŋ	ts
p	b	t	d
k	g		
f	v	s	z
ʃ			
w	r	l	h

Consonant Clusters:
nk, kj, nθ

Word-Final Consonants Produced

m	n	ŋ	ts
p	b	t	d
k	g		
f	v	s	z
ʃ			
w	r	l	h
	i	ai	

Consonant Clusters:

Core Phonological Process Analysis

Age	Phonological Process	
	Female	Male
2;0-2;5	FDV, IV	DF, FDV, IV
2;6-2;11	SR	SR
3;0-3;5	DFC, ST, VF	DFC, VF
3;6-3;11	DF	
4;0-4;5	STR	CS, ST, STR
4;6-4;11	CS, VOC, PF	PF
5;0-5;11		
6;0-6;11	GL	
7;0-7;11		ŋ
8;0-8;11		VOC

Summary of Consonant Analysis

- Phonetic Inventory: *clusters available, frics available, stridents available, no palatal obstruents, no liquids*
- Core Phonological Processes: *CS, ST, STR, PF, GL, VOC*
- Supplemental Phonological Processes: *∅*
- Other Phonological Processes: *NDEN, LAB, *PAL, +STR (*w, j for L, R)*
- Processes Per Word (PPW): *1.9*

Consonant Analysis: Phonetic Inventory

If the child used any phoneme, circle it. List any clusters. This is an **Inventory** of what the child produced, correct or incorrect.

Consonant Analysis

Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced

m	n					ŋ	
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð				
		s	z	ʃ			
w	r			j			h
	l						

Consonant Clusters:
kw, dw, pw, sw,
bw, fw, gw, tw,
st

Word-Medial Consonants Produced

m	n					ŋ	
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð				
		s	z	ʃ	ʒ		
w	r			j			h
	l						

Consonant Clusters:
ŋk, kj, nθ

Word-Final Consonants Produced

m	n					ŋ	
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð				
		s	z	ʃ	ʒ		
	r						
	l						

Consonant Clusters:

Consonant Analysis: Core Phonological Process Analysis

Order of Suppression Table

Ages at which
90% of sample
had < 15% usage

Circle PPs used
15% or more

Core Phonological Process Analysis		
Age	Phonological Process	
	Female	Male
2:0-2:5	FDV, IV	DF, FDV, IV
2:6-2:11	SR	SR
3:0-3:5	DFC, ST, VF	DFC, VF
3:6-3:11	DF	
4:0-4:5	STR	CS, ST, STR
4:6-4:11	CS, PF	PF
5:0-5:11		
6:0-6:11	VOC, GL	
7:0-7:11		GL
8:0-8:11		VOC

Cover Page

Circle PPs with greater than 15% occurrence.

PERCENT OF OCCURRENCE FOR CORE PHONOLOGICAL PROCESSES				
	Phonological Process	Number of Occurrences	Total Possible Occurrences	Percent of Occurrences
Manner	Deaffrication (DF)	1	of 8 =	13 %
	Gliding of liquids (GL)	18	of 20 =	90 %
	Stopping of fricatives and affricates (ST)	13	of 48 =	27 %
	Stridency deletion (STR)	17	of 42 =	40 %
	Vocalization (VOC)	15	of 15 =	100 %
Place	Palatal fronting (PF)	11	of 12 =	92 %
	Velar fronting (VF)	1	of 23 =	4 %
Reduction	Cluster simplification (CS)	6	of 23 =	26 %
	Deletion of final consonant (DFC)		of 36 =	%
	Syllable reduction (SR)	2	of 25 =	8 %
Voicing	Final devoicing (FDV)	2	of 35 =	6 %
	Initial voicing (IV)		of 33 =	%

Consonant Analysis: Summary

Summary of Consonant Analysis

- Phonetic Inventory clusters available, frics available, stridents available, no palatal obstruents, no liquids
- Core Phonological Processes CS, ST, STR, PF, GL, VOC
- Supplemental Phonological Processes ∅
- Other Phonological Process NDEN, *LAB, *PAL, +STR
(*w, j for L, R)
- Processes Per Word (PPW) 1.9



Questions about p 11: Consonant Analysis?

Vowel Analysis p 12

- Eight Vowel PPs
- Vowel Phonetic Inventory
- Vowel Usage Section
- Vowel Summary Box

Vowel Phonological Process Definitions

<p>Backing: producing a front vowel as a back vowel monkey → [mʌŋku] /ɪ/ → [u]</p> <p>Fronting: producing a back vowel as a front vowel frog → [freg] /ɔ/ → [e]</p> <p>Centralization: producing a front or back vowel as a central vowel cookie → [kuka] /ɪ/ → [ə]</p> <p>Decentralization: producing a central vowel as a front or back vowel cup → [kɒp] /ʌ/ → [ɔ]</p>	<p>Raising: altering vowel production by raising vowel height graffe → [dʒɛɪf] /eɪ/ → [ɪ]</p> <p>Lowering: altering vowel production by lowering vowel height blue → [blu] /u/ → [ɔ]</p> <p>Diphthongization: producing a monophthong as a diphthong go → [gɔɪ] /o/ → [ɔɪ]</p> <p>Monophthongization: producing a diphthong as monophthong boy → [bɔɪ] /ɔɪ/ → [ɔ]</p>
---	---

Vowel Analysis

Phonetic Inventory for Vowels in Single Words

	Vowels Produced			Vowel Phonological Processes	Individual's Vowel Usage						
	Front	Central	Back								
High	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">i leaf</td></tr> <tr><td style="text-align: center;">ɪ pig</td></tr> </table>	i leaf	ɪ pig		<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">u zoo</td></tr> <tr><td style="text-align: center;">ʊ cookie</td></tr> </table>	u zoo	ʊ cookie	Backing	e, æ → ə		
i leaf											
ɪ pig											
u zoo											
ʊ cookie											
Mid	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">e plate</td></tr> <tr><td style="text-align: center;">ɛ waco</td></tr> </table>	e plate	ɛ waco	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">ə zebra</td></tr> <tr><td style="text-align: center;">ɪ cup</td></tr> </table>	ə zebra	ɪ cup	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">o soap</td></tr> <tr><td style="text-align: center;">ɔ frog</td></tr> </table>	o soap	ɔ frog	Fronting Centralization Decentralization	
e plate											
ɛ waco											
ə zebra											
ɪ cup											
o soap											
ɔ frog											
Low	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a hammer</td></tr> </table>	a hammer		<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">ɔ waich</td></tr> </table>	ɔ waich	Raising Lowering	e → ə				
a hammer											
ɔ waich											
Diphthongs					Diphthongization						
	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">aɪ house</td></tr> </table>	aɪ house	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">aɪ knife</td></tr> </table>	aɪ knife	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">aɪ boy</td></tr> </table>	aɪ boy	Monophthongization	aɪ, aʊ → ə			
aɪ house											
aɪ knife											
aɪ boy											

Summary of Vowel Analysis

• Vowels Produced All in Inventory *Vowel Alterations = 0.1%

• Vowel Phonological Processes Used Backing (e, æ), Lowering (e), Monophthongization (aɪ, aʊ)

PEARSON

PsychCorp

Copyright © 2015 NCS Pearson, Inc. All rights reserved. Portions of this work were previously published.

Warning: No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without the express written permission of the copyright owner.

Pearson, P51 Design, PsychCorp, KLPA, Q-global, and Q-interactive are trademarks, in the U.S. and/or other countries, of Pearson Education, Inc. or its affiliates.

PsychCorp is an imprint of Pearson Clinical Assessment.

NCS Pearson, Inc., 5601 Green Valley Drive, Bloomington MN 55437
800.627.7271 www.PearsonClinical.com

Printed in the United States of America.

380117-1 604301

8 Vowel Phonological Processes

- **Backing**
- **Fronting**
- **Centralization**
- **Decentralization**
- **Raising**
- **Lowering**
- **Diphthongization**
- **Monophthongization**

Vowel Analysis: Definitions

Vowel Phonological Process Definitions

Backing: producing a front vowel as a back vowel

monkey → [mʌŋku] /i/ → [u]

Fronting: producing a back vowel as a front vowel

frog → [freg] /ɔ/ → [e]

Centralization: producing a front or back vowel as a central vowel

cookie → [kukə] /i/ → [ə]

Decentralization: producing a central vowel as a front or back vowel

cup → [kɒp] /ʌ/ → [ɒ]

Raising: altering vowel production by raising vowel height

giraffe → [dʒæɾɪf] /æ/ → [ɪ]

Lowering: altering vowel production by lowering vowel height

blue → [blɑ] /u/ → [ɑ]

Diphthongization: producing a monophthong as a diphthong

go → [gɔɪ] /o/ → [ɔɪ]

Monophthongization: producing a diphthong as monophthong

boy → [bɔ] /ɔɪ/ → [ɔ]

Vowel Analysis: Inventory and Usage

INVENTORY

VOWEL PP USAGE

Vowel Analysis

Phonetic Inventory for Vowels in Single Words

	Vowels Produced		
	Front	Central	Back
High	i leaf		u zoo
	ɪ pig		ʊ cookie
Mid	e plate	ə zebra	o soap
	ɛ web	ʌ cup	ɔ frog
Low	æ hammer		ɑ watch

Diphthongs		
au house	ai knife	oi boy

Vowel Phonological Processes	Individual's Vowel Usage
Backing	e, æ → ɑ
Fronting	
Centralization	
Decentralization	
Raising	
Lowering	e → ɑ
Diphthongization	
Monophthongization	aɪ, aʊ → ɑ

Vowel Analysis: Summary

Summary of Vowel Analysis

- Vowels Produced All in Inventory * Vowel Alterations = 10 %
- Vowel Phonological Processes Used Backing (e, æ), Lowering (e),
 Monophthongization (aɪ, aʊ)



Questions about p 12: Vowel Analysis?



Agenda

Case Study: OLIVER, age 5:6

1. GFTA-3 Results
2. KLPA-3: Phonological Process Analysis
- 3. Treatment Goals from KLPA-3,
pp 11-12**
4. Go DIGITAL!

Planning Treatment Goals

Circle PPs used 15% or more of opportunities (from cover page).

Oliver has six:

- CS
- ST
- STR
- PF
- GL
- VOC

Core Phonological Process Analysis		
Age	Phonological Process	
	Female	Male
2:0-2:5	FDV, IV	DF, FDV, IV
2:6-2:11	SR	SR
3:0-3:5	DFC, ST, VF	DFC, VF
3:6-3:11	DF	
4:0-4:5	STR	CS, ST, STR
4:6-4:11	CS, PF	PF
5:0-5:11		
6:0-6:11	VOC, GL	
7:0-7:11		GL
8:0-8:11		VOC

Phonetic Inventory

Next: Compare each circled PP to Oliver's Phonetic Inventory.

Consonant Analysis

Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced

m	n					ŋ	
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð		ʃ		
		s	z				
w	r			j			h
	l						

Consonant Clusters:
kw, dw, pw, sw,
bw, fw, gw, tw,
st

Word-Medial Consonants Produced

m	n	ts	ŋ				
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð		ʃ	ʒ	
		s	z				
w	r			j			h
	l						

Consonant Clusters:
ŋk, kj, nθ

Word-Final Consonants Produced

m	n	ts	ŋ				
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð		ʃ	ʒ	
		s	z				
	r			ɹ			
	l						

Consonant Clusters:

Planning Treatment Targets: CS

Look for **any clusters**.

Consonant Analysis
 Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced	Word-Medial Consonants Produced	Word-Final Consonants Produced																																																																																																																																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>m</td><td>n</td><td></td><td></td><td></td><td>ŋ</td></tr> <tr><td>p</td><td>b</td><td>t</td><td>d</td><td>tʃ</td><td>dʒ</td><td>k</td><td>g</td></tr> <tr><td>f</td><td>v</td><td>θ</td><td>ð</td><td>ʃ</td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>s</td><td>z</td><td></td><td></td><td></td><td></td></tr> <tr><td>w</td><td></td><td>r</td><td></td><td>l</td><td></td><td>h</td><td></td></tr> <tr><td></td><td></td><td>l</td><td></td><td></td><td></td><td></td><td></td></tr> </table>	m	n				ŋ	p	b	t	d	tʃ	dʒ	k	g	f	v	θ	ð	ʃ						s	z					w		r		l		h				l						<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>m</td><td>n</td><td>ts</td><td>ŋ</td><td></td><td></td><td></td><td></td></tr> <tr><td>p</td><td>b</td><td>t</td><td>d</td><td>tʃ</td><td>dʒ</td><td>k</td><td>g</td></tr> <tr><td>f</td><td>v</td><td>θ</td><td>ð</td><td>ʃ</td><td>ʒ</td><td></td><td></td></tr> <tr><td></td><td></td><td>s</td><td>z</td><td></td><td></td><td></td><td></td></tr> <tr><td>w</td><td></td><td>r</td><td></td><td>l</td><td></td><td>h</td><td></td></tr> <tr><td></td><td></td><td>l</td><td></td><td></td><td></td><td></td><td></td></tr> </table>	m	n	ts	ŋ					p	b	t	d	tʃ	dʒ	k	g	f	v	θ	ð	ʃ	ʒ					s	z					w		r		l		h				l						<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>m</td><td>n</td><td>ts</td><td>ŋ</td><td></td><td></td><td></td><td></td></tr> <tr><td>p</td><td>b</td><td>t</td><td>d</td><td>tʃ</td><td>dʒ</td><td>k</td><td>g</td></tr> <tr><td>f</td><td>v</td><td>θ</td><td>ð</td><td>ʃ</td><td>ʒ</td><td></td><td></td></tr> <tr><td></td><td></td><td>s</td><td>z</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>r</td><td></td><td>l</td><td></td><td>h</td><td></td></tr> <tr><td></td><td></td><td>l</td><td></td><td></td><td></td><td></td><td></td></tr> </table>	m	n	ts	ŋ					p	b	t	d	tʃ	dʒ	k	g	f	v	θ	ð	ʃ	ʒ					s	z							r		l		h				l					
m	n				ŋ																																																																																																																																											
p	b	t	d	tʃ	dʒ	k	g																																																																																																																																									
f	v	θ	ð	ʃ																																																																																																																																												
		s	z																																																																																																																																													
w		r		l		h																																																																																																																																										
		l																																																																																																																																														
m	n	ts	ŋ																																																																																																																																													
p	b	t	d	tʃ	dʒ	k	g																																																																																																																																									
f	v	θ	ð	ʃ	ʒ																																																																																																																																											
		s	z																																																																																																																																													
w		r		l		h																																																																																																																																										
		l																																																																																																																																														
m	n	ts	ŋ																																																																																																																																													
p	b	t	d	tʃ	dʒ	k	g																																																																																																																																									
f	v	θ	ð	ʃ	ʒ																																																																																																																																											
		s	z																																																																																																																																													
		r		l		h																																																																																																																																										
		l																																																																																																																																														
<p>Consonant Clusters: kw, dw, pw, sw, bw, fw, gw, tw, st</p>	<p>Consonant Clusters: nk, kj, nθ</p>	<p>Consonant Clusters:</p>																																																																																																																																														

Planning Treatment Targets: **CS**

Select Target Words - **CS: Cluster Simplification**

Targets	Probable Successful Words	Possible Contrasts	Auditory Bombardment Lists
sp → p	pill	pill-spill	SPot SPike
br → b	bake	bake-break	BRead BRight
-nt → n	ten	ten-tent	weNT plaNT

Planning Treatment Targets: **ST**

Look for **any fricatives or affricates**.

Consonant Analysis

Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced

m	n					ŋ	
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ			
		s	z				
w	r			j			h
	l						

Consonant Clusters:
 kw, dw, pw, sw,
 bw, fw, gw, tw,
 st

Word-Medial Consonants Produced

m	n	ts	ŋ				
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ	ʒ		
		s	z				
w	r			j			h
	l						

Consonant Clusters:
 nk, kj, nθ

Word-Final Consonants Produced

m	n	ts	ŋ				
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ	ʒ		
		s	z				
	r						
	l						əl

Consonant Clusters:

Planning Treatment Targets: **STR**

Look for **any stridents**.

Consonant Analysis

Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced

m	n					ŋ	
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ			
		s	z				
w		r		j			h
		l					

Consonant Clusters:
kw, dw, pw, sw,
bw, fw, gw, tw,
st

Word-Medial Consonants Produced

m	n	ts	ŋ				
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ	ʒ		
		s	z				
w		r		j			h
		l					

Consonant Clusters:
nk, kj, nθ

Word-Final Consonants Produced

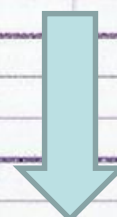
m	n	ts	ŋ				
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ	ʒ		
		s	z				
		r		ɹ			
		l		əl			

Consonant Clusters:

Planning Treatment Targets: **ST, STR**

Check AF grid.
Look in the ST and STR columns.

CORE Phonological Processes						Manner					Place
ITEM	Target Word	IPA Transcription	Individual's Response	Target Sound	Sound Change	Deafrication	Gilding of liquids	Stopping of fricatives and affricates	Stridency deletion	Vocalization	Palatal fronting
22	swing	swɪŋ	✓	s							
				w							
				ŋ							
23	guitar	getar	gətə	g							
				t							
				r	a					X	
24	lion	laɪən	jaɪən	l	ɹ		X				
				n							
25	chair	tʃer	tʃɔ	tʃ	t			X	X		X
				r	o					X	
26	soap	sop	tɒp	s	t			X	X		
				p							
				ɔ							



Planning Treatment Goals: PF

Look for **any** palatals

Consonant Analysis

Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced

m	n					ŋ	
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ			
		s	z				
w	r			j			
	l						

Consonant Clusters:
 kw, dw, pw, sw,
 bw, fw, gw, tw,
 st

Word-Medial Consonants Produced

m	n	ts	ŋ				
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ	ʒ		
		s	z				
w	r			j			
	l						

Consonant Clusters:
 nk, kj, nθ

Word-Final Consonants Produced

m	n	ts	ŋ				
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ	ʒ		
		s	z				
	r						
	l						

Consonant Clusters:

Planning Treatment Targets: **ST, STR and PF***

Select Target Words

Targets	Probable Successful Words	Possible Contrasts	Auditory Bombardment Lists
s → t	“T”	“T”-see	sun same
ʃ → s	seat	sheet-seat*	she* shoe*
tʃ → t	tip	tip-chip* (tsip)	chain* cheep*

Planning Treatment Goals: GL

Look for **any consonantal or cluster R or L.**

Consonant Analysis
Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced	Word-Medial Consonants Produced	Word-Final Consonants Produced																																																																																																																																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>m</td><td>n</td><td></td><td></td><td></td><td>ŋ</td></tr> <tr><td>p</td><td>b</td><td>t</td><td>d</td><td>tʃ</td><td>dʒ</td><td>k</td><td>g</td></tr> <tr><td>f</td><td>v</td><td>θ</td><td>ð</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>s</td><td>z</td><td>ʃ</td><td></td><td></td><td></td></tr> <tr><td>w</td><td>r</td><td></td><td></td><td>l</td><td></td><td></td><td>h</td></tr> <tr><td></td><td>l</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	m	n				ŋ	p	b	t	d	tʃ	dʒ	k	g	f	v	θ	ð							s	z	ʃ				w	r			l			h		l							<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>m</td><td>n</td><td>ts</td><td></td><td></td><td>ŋ</td></tr> <tr><td>p</td><td>b</td><td>t</td><td>d</td><td>tʃ</td><td>dʒ</td><td>k</td><td>g</td></tr> <tr><td>f</td><td>v</td><td>θ</td><td>ð</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>s</td><td>z</td><td>ʃ</td><td>ʒ</td><td></td><td></td></tr> <tr><td>w</td><td>r</td><td></td><td></td><td>l</td><td></td><td></td><td>h</td></tr> <tr><td></td><td>l</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	m	n	ts			ŋ	p	b	t	d	tʃ	dʒ	k	g	f	v	θ	ð							s	z	ʃ	ʒ			w	r			l			h		l							<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>m</td><td>n</td><td>ts</td><td></td><td></td><td>ŋ</td></tr> <tr><td>p</td><td>b</td><td>t</td><td>d</td><td>tʃ</td><td>dʒ</td><td>k</td><td>g</td></tr> <tr><td>f</td><td>v</td><td>θ</td><td>ð</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>s</td><td>z</td><td>ʃ</td><td>ʒ</td><td></td><td></td></tr> <tr><td></td><td>r</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td>l</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	m	n	ts			ŋ	p	b	t	d	tʃ	dʒ	k	g	f	v	θ	ð							s	z	ʃ	ʒ				r								l						
m	n				ŋ																																																																																																																																							
p	b	t	d	tʃ	dʒ	k	g																																																																																																																																					
f	v	θ	ð																																																																																																																																									
		s	z	ʃ																																																																																																																																								
w	r			l			h																																																																																																																																					
	l																																																																																																																																											
m	n	ts			ŋ																																																																																																																																							
p	b	t	d	tʃ	dʒ	k	g																																																																																																																																					
f	v	θ	ð																																																																																																																																									
		s	z	ʃ	ʒ																																																																																																																																							
w	r			l			h																																																																																																																																					
	l																																																																																																																																											
m	n	ts			ŋ																																																																																																																																							
p	b	t	d	tʃ	dʒ	k	g																																																																																																																																					
f	v	θ	ð																																																																																																																																									
		s	z	ʃ	ʒ																																																																																																																																							
	r																																																																																																																																											
	l																																																																																																																																											
<p>Consonant Clusters:</p> <p><i>kw, dw, pw, sw,</i> <i>bw, fw, gw, tw,</i> <i>st</i></p>	<p>Consonant Clusters:</p> <p><i>ŋk, kj, nθ</i></p>	<p>Consonant Clusters:</p> <p>_____</p> <p>_____</p> <p>_____</p>																																																																																																																																										

Planning Treatment Targets: **GL**

Select Target Words

Targets	Probable Successful Words	Possible Contrasts	Auditory Bombardment Lists
r → w	wake	wake-rake	race ride
l → j	yes	yes-less	lip loud
tr → tw	tweet	tweet-treat	treat train

Planning Treatment Targets: **GL**

Select Target Words – **L & R Clusters**

Targets	Probable Successful Words	Possible Contrasts	Auditory Bombardment Lists
kr → kw	quack	quack-crack	crack cream
sl → sw	swing	swing-sling	slip slam
tr → tw	tweet	tweet-treat	treat train

Planning Treatment Goals: **VOC**

Look for **any vocalic ER or EL**.

Consonant Analysis

Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced

m	n				ŋ		
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð				
		s	z	f			
w	r			j			h
	l						

Consonant Clusters:
kw, dw, pw, sw,
bw, fw, gw, tw,
st

Word-Medial Consonants Produced

m	n	ts	ŋ				
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð				
		s	z	f	ʒ		
w	r			j			h
	l						

Consonant Clusters:
ŋk, kj, nθ

Word-Final Consonants Produced

m	n	ts	ŋ				
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð				
		s	z	f	ʒ		
	r			ɹ			
	l				əl		

Consonant Clusters:

Select Target Words

Targets	Probable Successful Words	Possible Contrasts	Auditory Bombardment Lists
er → o, u, ʊ			over under
el → o			table beetle

Lots of Auditory Bombardment alongside more traditional articulation therapy.

Planning Treatment Goals: **VOWELS**

Vowel Analysis					
Phonetic Inventory for Vowels in Single Words					
	Vowels Produced			Vowel Phonological Processes	Individual's Vowel Usage
	Front	Central	Back		
High	<u>i</u> leaf		<u>u</u> zoo	Backing	<i>e, æ → a</i>
	<u>I</u> pig		<u>U</u> cookie	Fronting	
Mid	<u>e</u> plate	<u>ə</u> zebra	<u>o</u> soap	Centralization	
	<u>ɛ</u> web	<u>ʌ</u> cup	<u>ɔ</u> frog	Decentralization	
Low	<u>æ</u> hammer		<u>ɑ</u> watch	Raising	
				Lowering	<i>e → a</i>
				Diphthongization	
				Monophthongization	<i>aɪ, aʊ → a</i>
Diphthongs					
<u>au</u> house	<u>aɪ</u> knife		<u>ɔɪ</u> boy		

Some Mid and Low front vowels and diphthongs are lowered and backed to [ɑ].

Planning Treatment Goals

Select Target Words - **VOWELS**

Targets	Probable Successful Words	Possible Contrasts	Auditory Bombardment Lists
e → a	plot	plot-plate	cake same
aʊ → a	otter	otter-outer	cow mouse
aɪ → a	top	pop-pipe	smile cry

Treatment Planning

Consonant Analysis

Phonetic Inventory for Consonants in Single Words

Word-Initial Consonants Produced

m	n						ŋ
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ			
		s	z				
w	r						
	l	j					

Consonant Clusters:

Word-Medial Consonants Produced

m	n						ŋ
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ	ʒ		
		s	z				
w	r						
	l	j					

Consonant Clusters:

Word-Final Consonants Produced

m	n						ŋ
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	ʃ	ʒ		
		s	z				
				r	ɹ		
				l	ɫ		

Consonant Clusters:

Core Phonological Process Analysis

Age	Phonological Process	
	Female	Male
2;0-2;5	FDV, IV	DE, FDV, IV
2;6-2;11	SR	SR
3;0-3;5	DFC, ST, VF	DFC, VF
3;6-3;11	DF	
4;0-4;5	STR	CS, ST, STI
4;6-4;11	CS, VOC, PF	
5;0-5;11		
6;0-6;11	GL	
7;0-7;11		GL
8;0-8;11		VOC

CONSONANT ANALYSIS

Summary of Consonant Analysis

- Phonetic Inventory _____
- Core Phonological Processes _____
- Supplemental Phonological Processes _____
- Other Phonological Process _____
- Processes Per Word (FPW) _____

Vowel Phonological Process Definitions

Backing: producing a front vowel as a back vowel
monkey → [mʌŋku] /i/ → [u]

Fronting: producing a back vowel as a front vowel
frog → [freg] /ɔ/ → [e]

Centralization: producing a front or back vowel as a central vowel
cookie → [kuke] /i/ → [e]

Decentralization: producing a central vowel as a front or back vowel
cup → [kop] /ʌ/ → [o]

Raising: altering vowel production by raising vowel height
giraffe → [dʒærfɛ] /æ/ → [ɪ]

Lowering: altering vowel production by lowering vowel height
blue → [blɔ] /u/ → [ɑ]

Diphthongization: producing a monophthong as a diphthong
go → [gɔɪ] /ɔ/ → [ɔɪ]

Monophthongization: producing a diphthong as monophthong
boy → [bɔ] /ɔɪ/ → [ɔ]

Vowel Analysis

Phonetic Inventory for Vowels in Single Words

	Vowels Produced			Vowel Phonological Processes	Individual's Vowel Usage
	Front	Central	Back		
High	i leaf		u zoo	Backing	
	I pig		ʊ cookie	Fronting	
	e plate	a up	ɔ frog	Decentralization	
Mid	ɛ well	ə up	o frog	Raising	
	æ hammer		ɑ watch	Lowering	
Diphthongs					
	əʊ house	aɪ knife	ɔɪ boy	Diphthongization	

Summary of Vowel Analysis

- Vowels Produced _____
- Vowel Phonological Processes Used _____



Clinician-to-Clinician Tool

- KLPA-3 was developed by clinicians for clinicians
- Constructed to be an efficient yet reliable way to derive a speech sound error & phonological process profile for individuals with speech sound disorders
- Designed to facilitate treatment planning and progress monitoring





Questions about **TREATMENT PLANNING?**



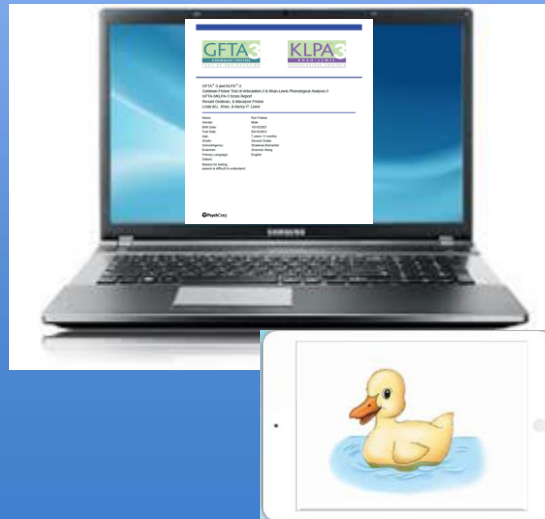
Agenda

Case Study: OLIVER, age 5:6

1. GFTA-3: Administer and Score Articulation
2. KLPA-3: Phonological Process Analysis
3. Treatment Goals from KLPA-3 pp 11-12
- 4. Go DIGITAL!**



Digital and Print Choices



Paper & Pencil





Sample GFTA-3/KLPA-3 Score Report



GFTA™-3 and KLPA™-3

Goldman-Fristoe Test of Articulation-3 & Khan-Lewis Phonological Analysis-3

GFTA-3/KLPA-3 Score Report

Ronald Goldman, & Macalyne Fristoe

Linda M.L. Khan, & Nancy P. Lewis

Name:	Ron Fristoe
Gender:	Male
Birth Date:	10/10/2007
Test Date:	09/14/2015
Age:	7 years 11 months
Grade:	Second Grade
School/Agency:	Shawnee Elementar
Examiner:	Shannon Wang
Primary Language:	English
Dialect:	
Reason for testing:	speech is difficult to understand



KLPA-3 Score Report Results

KLPA-3 SCORE SUMMARY

KLPA-3 Score Summary

Total Raw Score	Standard Score	95% Conf. Interval	Percentile Rank	Age Equivalent
44	40	37-49	<0.1	<2:0

Core Phonological Processes Summary

	Phonological Process	Number of Occurrences	Total Possible Occurrences	Percent of Occurrences
Manner	Deaffrication (DF)	0	of 8 =	0%
	Gliding of liquids (GL)	12	of 20 =	60%
	Stopping of fricatives and affricates (ST)	6	of 48 =	13%
	Stridency deletion (STR)	11	of 42 =	26%
	Vocalization (VOC)	6	of 15 =	40%
Place	Palatal fronting (PF)	1	of 12 =	8%
	Velar fronting (VF)	0	of 23 =	0%
Reduction	Cluster simplification (CS)	7	of 23 =	30%
	Deletion of final consonant (DFC)	1	of 36 =	3%
	Syllable reduction (SR)	0	of 25 =	0%
Voicing	Final devoicing (FDV)	0	of 35 =	0%
	Initial voicing (IV)	0	of 33 =	0%

Supplemental Phonological Processes Summary

	Phonological Process	Number of Occurrences	Total Possible Occurrences	Percent of Occurrences
Manner	Affrication	0	of 151 =	0%
	Frication	0	of 111 =	0%
	Gliding (other)	0	of 81 =	0%
	Glottal replacement	0	of 159 =	0%
	Liquidization	0	of 124 =	0%
	Stopping (other)	0	of 59 =	0%
Place	Backing to velars or /h/	0	of 134 =	0%
Reduction	Deletion of initial consonant	0	of 58 =	0%
	Deletion of medial consonant	1	of 27 =	4%
Voicing	Initial devoicing	0	of 41 =	0%
	Medial devoicing	0	of 22 =	0%
	Medial voicing	0	of 11 =	0%

Vowel Inventory

	Phonological Process	Number of Occurrences	Total Possible Occurrences	Percent of Occurrences
Vowels	Vowel alterations	0	of 82 =	0%



KLPA-3 Score Report Results

Processes Per Word (PPW) Summary

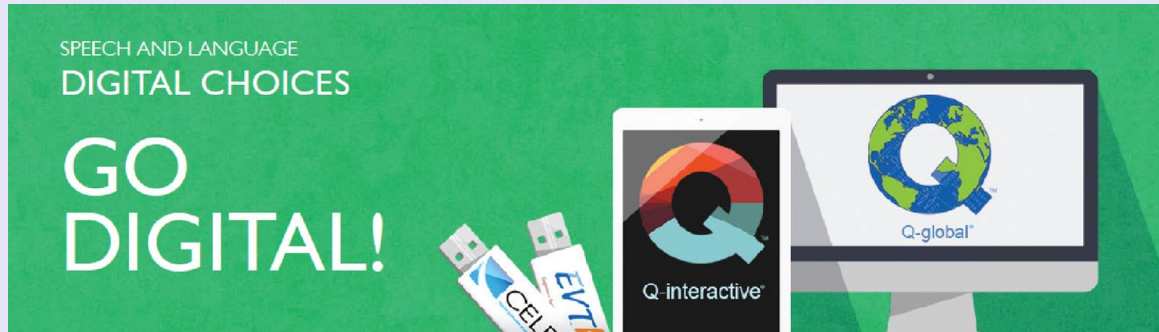
Item	Target Word	Core Processes per Word	Supplemental Processes per Word	Total Processes per Word
1	HOUSE	2	0	2
11	MONKEY	1	0	1
12	HAMMER	1	0	1
13	FISH	3	0	3
15	SPIDER	3	0	3
17	DRUM	1	0	1
21	SLIDE	3	0	3
22	SWING	2	0	2
26	SOAP	2	0	2
27	GLASSES	1	1	2
28	TIGER	1	0	1
30	FINGER	1	0	1
31	RING	1	0	1
34	VACUUM	1	0	1
36	TEACHER	1		
37	ZEBRA	1		
38	GIRAFFE	1		
39	VEGETABLE	2		
43	BROTHER	3		
44	FROG	1		
45	GREEN	1		
46	THAT	1		
52	PRINCESS	1		
53	CROWN	1		
54	TRUCK	1		
55	RED	1		
56	JUICE	2		
58	STAR	2		
60	SEVEN	2		

NARRATIVE REPORT

The Khan-Lewis Phonological Analysis-Third Edition (KLPA-3) is a norm-referenced analysis of an individual's speech development and phonological process usage. The analysis is used to identify frequency of usage of twelve Core Phonological Processes grouped into four types of processes (manner, place, reduction and voicing Processes), twelve Supplemental, and other processes used by the individual. The KLPA-3 requires the administration of the 60 target words of the Sounds-in-Words test in the Goldman-Fristoe Test of Articulation-Third Edition (GFTA-3). The target words are analyzed for sound changes and the sound changes are classified by phonological process(es). The total number of phonological processes included in the 12 Core Processes are converted into a series of scores (mean of 100 and a standard deviation of 15) based on age and gender-based norms.



More Information About Print and Digital Choices



PearsonClinical.com/SLDigitalChoices



HelloQ.com

speechandlanguage.com/digital

**Questions about
Q-interactive
or
Q-global?**





If listening to the live webinar...

If you are listening to the live webinar event on 3/16/16 and would like ASHA CEUs, please complete the ASHA Participant Form *and* the evaluation form available on the website where you registered for the webinar. Mail the printed forms **postmarked no later than 3/24/16** to:

Darlene Davis
Pearson Assessment
19500 Bulverde Road
San Antonio, TX 78259

We cannot accept scanned copies of the forms by fax or email.

If there are multiple attendees listening to the presentation at one location, please print the attendance roster. Each person attending the webinar for the entire hour needs to sign the form as well as submit the Participant and Evaluation forms.

Please be advised that you had to be logged in online for the duration of the live web presentation. ReadyTalk provides Pearson with the exact time that each participant is online. If you had computer difficulties and had to log back in, Pearson will total the duration of each time that you were logged in to the webinar.

Questions about CEUs? Email Darlene Davis at darlene.k.davis@pearson.com